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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,891	06/21/2001	Hongy Lin	13558-51	1521

25716 7590 04/05/2002

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[REDACTED] EXAMINER

PELHAM, JOSEPH MOORE

ART UNIT	PAPER NUMBER
3742	

DATE MAILED: 04/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/681,891	LIN ET AL.	
	Examiner	Art Unit	
	Joseph M Pelham	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on _____.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-26 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 14-26 is/are allowed.

6) Claim(s) 1-13 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .

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Claim Rejections - 35 USC § 112

1. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-3 recite the intended use of the invention in a sub-zero degree temperature environment, but *do not, however, impose any evident further limitations on the structure of the invention*. Applicant avers that the recited temperatures at which the heater is intended to be used “bring the...heater within the intended scope of the claims;” however, the matter at issue is precisely how these intended use recitations define the scope of the claims. They have no evident structural implications. Hence claims 2 and 3 fail to further limit the scope of claim 1, and their scope is therefore indefinite. Moreover, claim 1 still recites a “target object...located in an environment of... temperatures...below 0⁰ C,” *explicitly reciting* that the sub-zero temperature condition of the heater is part of the invention. The scope of the claim thus remains indefinite.

Claim Rejections - 35 USC § 102

2. Claims 1-5, 7, and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5308311 to Eggers et al.

Referring to Figure 2, column 5, lines 46-58, column 6, lines 48-50, column 8, lines 6-23, and column 9, lines 37-41, Eggers et al discloses a copper substrate 21, metal oxide dielectric layers 17, 18, a polymer based resistive heater 16, and operating temperatures (up to 500⁰ C) clearly implicating power densities in excess of 200 watts/in² for a target blade of dimensions approximately 2-4 cm². Further, the blade is inherently operable at temperatures below -150⁰ C.

Claim Rejections - 35 USC § 103

3. Claims 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggers et al.

While Eggers et al does not explicitly disclose aluminum, ceramic, or steel substrates, such cannot be regarded to patentably distinguish the invention from the prior art of record. Eggers et al discloses the appropriateness of applying the heater structure to a rigid substrate. It would have been obvious to apply the heater of Eggers et al to aluminum, ceramic, or steel substrates depending strictly upon the particular use intended for the heater, such as a ceramic cooktop or stainless steel or aluminum kitchen implements.

Allowable Subject Matter

4. Claims 14-26 are allowed.

Response to Arguments

5. Applicant's arguments filed 1/23/02 have been fully considered but they are not persuasive.

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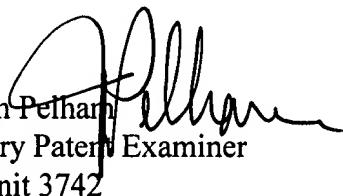
Applicant avers that the recited use at low temperatures distinguishes the claimed invention from the prior art. The examiner firstly notes that the claims do recite that the heater will retain its original integrity at the low temperatures. Secondly, a recitation of the intended use of the claimed invention ***must result in a structural difference*** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The claims recite a polymer-based heater on a metal substrate characterized by high thermal conductivity. Eggers et al discloses a polymer-based heater on a metal substrate characterized by high thermal conductivity. The heater of Eggers et al is prima facie able to be "maintained at a temperature below -150°C."

Conclusion

6. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication should be directed to Joseph Pelham, at (703)308-1709. Status inquiries of a general nature should be directed to the Technology Center 3700 receptionist at (703) 308-0861.


Joseph Pelham
Primary Patent Examiner
Art Unit 3742

JP

April 4, 2002